

# INFINITY 1-5

5.0 Megapixel CMOS USB 2.0 Camera

Scientific Digital Imaging for Documentation  
in Life Science, Clinical and Material Science  
Applications



## INFINITY 1-5

For applications that demand extremely high resolution, the INFINITY 1-5 camera produces a full 2592 x 1944 video preview with speeds of 7 frames per second (fps) in both color and monochrome formats. This full 5.0 megapixel sensor allows users to view fine detail in samples and provide a high resolution preview to large monitors and overhead projectors.

### Excellent Color Reproduction

Years of experience in the microscopy market have allowed Lumenera to develop specialized color algorithms ensuring excellent color reproduction in samples ranging from stained cells to water inspection.

### Full Image Analysis Software Included

INFINITY CAPTURE, an intuitive image capture program, and INFINITY ANALYZE, a full image analysis package offering camera control, measurement, annotations, tiling and post capture enhancement, are both included. Camera and software combined to create a complete microscopy imaging solution for your application.

### USB 2.0 Plug-and-Play Interface

Once the software has been installed, running one or more cameras on a single computer is as simple as plugging them into a high-speed USB 2.0 port. This camera is compatible with the USB 3.0 interface, supporting the existing USB 2.0 frame rates.

### Third-Party Software Integration

INFINITY cameras are integrated into a variety of third-party software packages through direct drivers or with TWAIN/DirectX support.

### Mac Camera Software

A Mac camera driver, capture application and ImageJ plug-in are available for the INFINITY 1-5. Please go to [www.lumenera.com](http://www.lumenera.com) for up-to-date details.

### Superior Technical Assistance Center (TAC)

As a Lumenera customer you gain access to the TAC group and knowledge base, that provide full support for cameras, software and microscopy applications.

## Features

- Low noise progressive scan 1/2.5" 5.0 megapixel CMOS sensor
- Full color sub-windowing for rapid focus and scanning of samples
- 7 fps at full 2592 x 1944 resolution and 60 fps at 640 x 480 resolution
- High-speed USB 2.0 for ease of installation on any computer
- Selectable 8 or 12-bit pixel data modes
- Software compatible with Windows 10, 8, 7, Vista, Mac OS X 10.7, 32 and 64-bit operating systems
- Includes TWAIN and DirectX/Direct Show support

## Recommended Applications

- Brightfield
- Darkfield
- Live Cell Imaging
- Histology
- Pathology
- Cytology
- Defect Analysis
- Semiconductor Inspection
- Metrology

## Warranty

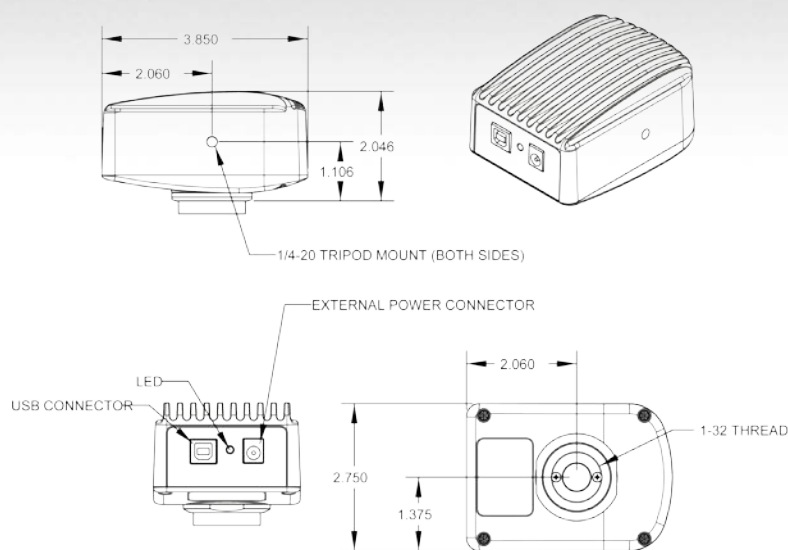
- Four (4) year warranty

## Microscope Coupler

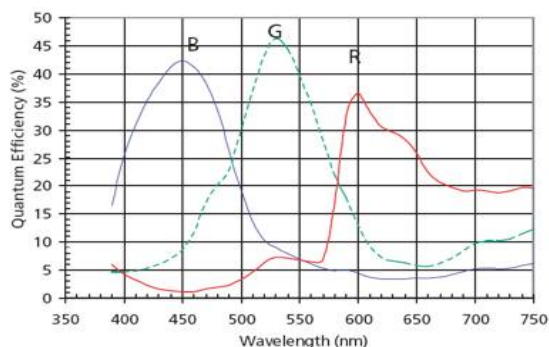
- Requires 0.5 x C-mount coupler



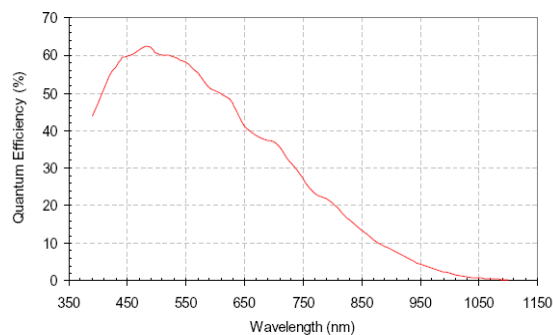
## Mechanical Drawing



## Color Quantum Efficiency Curves



## Monochrome Quantum Efficiency Curve



## Sensor Specifications

Image Sensor	Micron MT9P031, CMOS, color or monochrome, progressive scan
Optical Format	1/2.5"
Imager Size	Diagonal 7.13 mm
Pixel Size	2.2 x 2.2 $\mu$ m
Resolution	2592 x 1944 pixels
Region of Interest Control	Any multiple of 8 x 8 pixels, 32 x 32 pixels minimum

## Camera Specifications

Frame Rate	7 fps
Bit Depth	8 or 12-bit
Binning / Subsampling Modes	2 x 2, 4 x 4
Exposure Control	Manual and automatic control
Exposure Range	106 $\mu$ s to 3 s (video), 106 $\mu$ s to 3 s (snapshot)
Gain Control	Manual and automatic control
Gain Range	1 to 3.88 x
White Balance	Manual and automatic control

## Camera Characteristics

Sensitivity	High
Dynamic Range	49 dB
Full Well Capacity	15,000 e <sup>-</sup>
Quantum Efficiency	47 % (green-peak), 62 % (mono-peak)
Read Noise	20 e <sup>-</sup>
Dark Current Noise	<8 e <sup>-</sup> /s at 22 °C

## Mechanical Specifications

Data Interface	USB 2.0
Lens Mount	Adjustable C-mount standard
Dimensions	97.8 x 69.8 x 50.8 mm 3.85 x 2.75 x 2.00 inch
Mass	330 g
Operating Temperature	0 to 50 °C
Storage Temperature	-30 to 70 °C
Operating Humidity	5 to 95 %, non-condensing
Shock / Vibration	50 G shock, 5 G (2 to 200 Hz) vibration
Onboard Memory	Camera has onboard non-volatile memory storage

## Camera Software

Operating Systems	Windows 10, 8, 7, Vista, Mac OS X 10.7, 32 and 64-bit
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## Power and Emissions

Power Consumption	~2.5 W
Power Requirement	USB bus power only
Emissions Compliances	FCC Class BE, CE Certified
Hazardous Materials	RoHS, WEEE Compliant
Warranty	Four (4) year

## System Requirements

Recommended PC Specs:	<ul style="list-style-type: none"> <li>Pentium 4, 1.3 GHz or higher</li> <li>512 MB RAM</li> <li>500 MB hard drive free space or more</li> <li>USB 2.0 Port</li> <li>Windows 10, 8, 7, Vista, Mac OS X 10.7, 32 and 64-bit</li> </ul>
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## Included In The Box

INFINITY 1-5	5 MP digital camera + 3m USB 2.0 cable
LuINFSW-DVD	DVD with INFINITY user application software (including INFINITY ANALYZE), TWAIN driver and documentation

## Ordering Information

INFINITY 1-5C	5.0 MP Color CMOS Microscopy Camera
INFINITY 1-5M	5.0 MP Monochrome CMOS Microscopy Camera

## Ordering Options

INFINITY ANALYZE MODULE	INFINITY ANALYZE Advanced Features Module (Multi-Focus Composition and Spherical Aberration Correction Features)
LuSDKSW	Software Developer's Kit (Web Download)